

Listing of Claims

The following listing of claims replaces all prior versions and listings of claims in the Application.

1-18. (Cancel)

19. (Currently Amended) A prosthetic intervertebral disc comprising:

a disc body, having a first surface that is a ~~concave-convex~~ single articulating surface and a second surface as a base adapted for fixation to a first bone surface, wherein the ~~concave-convex~~ single articulating surface has a substantially hyperbolic paraboloid shape, wherein a convex reference curve is formed when the single articulating surface is intersected with a midsagittal plane, and wherein a concave reference curve is formed when the single articulating surface is intersected with a second plane orthogonal to the midsagittal plane.

20. (Canceled)

21. (Previously Presented) The prosthetic disc of claim 19, wherein the first surface is a saddle surface.

22. (Previously Presented) The prosthetic disc of claim 19, wherein the first surface is a surface with negative curvature.

23. (Previously Presented) The prosthetic disc of claim 19, wherein the second surface is substantially planar.

24. (Previously Presented) The prosthetic disc of claim 19, wherein the second surface is a separate component manufactured separately.

25. (Previously Presented) The prosthetic disc of claim 19, wherein the second surface has features for bone ingrowth.

26. (Previously Presented) The prosthetic disc of claim 19, wherein the second surface is made of a porous material.

27. (Previously Presented) The prosthetic disc of claim 19, wherein the second surface is provided with a surface treatment.

28. (Previously Presented) The prosthetic disc of claim 19, wherein the first surface is shaped to be mated to a lower surface of a vertebra positioned above the first surface.

29. (Previously Presented) The prosthetic disc of claim 19, wherein the first surface is shaped to be mated to and articulate with a second artificial body positioned above the first surface.
30. (Previously Presented) The prosthetic disc of claim 19, wherein the first surface is adapted for articulation with a vertebral body.
31. (Currently Amended) An artificial intervertebral disc comprising:
a disc body having a superior articulating surface and an inferior surface adapted for fixation to bone, wherein the superior articulating surface has a single shape characterized substantially as a hyperbolic paraboloid shape, wherein a convex reference curve is formed when the superior articulating surface is intersected with a midsagittal plane, wherein a concave reference curve is formed when the superior articulating surface is intersected with a second plane orthogonal to the midsagittal plane.
32. (Previously Presented) The artificial intervertebral disc of claim 31, wherein the superior articulating concave-convex surface is adapted for articulation with a second body.
33. (Withdrawn) The artificial intervertebral disc of claim 32, wherein second body is a vertebral body.
34. (Previously Presented) The artificial intervertebral disc of claim 32, wherein the second body is an artificial disc body having an inferior articulating surface and a superior surface adapted for fixation to bone, wherein the inferior articulating surface has a substantially hyperbolic paraboloid shape.
35. (Previously Presented) The artificial intervertebral disc of claim 32, wherein the articulating surface is a saddle surface.
36. (Previously Presented) The artificial disc of claim 34, wherein the inferior articulating surface of the second body is reciprocally shaped with respect to the superior articulating surface of the disc body.

37. (Withdrawn; Currently Amended) A method of providing a prosthetic intervertebral disc comprising the steps of:

removing a portion of an intervertebral disc, thereby creating an intervertebral disc space; and

placing a prosthetic disc substantially within said intervertebral disc space, wherein the prosthetic disc consists essentially of:

a disc body, having a ~~first surface that is a concave-convex~~ single articulating surface and a second surface as a base adapted for fixation to a first bone surface, wherein the ~~concave-convex~~ single articulating surface has a substantially hyperbolic paraboloid shape, wherein a convex reference curve is formed when the single articulating surface is intersected with a midsagittal plane, and wherein a concave reference curve is formed when the single articulating surface is intersected with a second plane orthogonal to the midsagittal plane.

38. (Withdrawn; Previously Presented) The method of claim 37, wherein placing includes mating the disc body to a surface of a vertebra.

39. (Withdrawn; Previously Presented) The method of claim 37, wherein the prosthetic disc is shaped to be mated to a second body upon placing within the intervertebral disc space.

40. (Withdrawn; Previously Presented) The method of claim 37, wherein the prosthetic disc is adapted for articulation with a vertebral body.

41. ((Withdrawn; Previously Presented) The method of claim 37, wherein placing includes mating the prosthetic disc to a surface of a second artificial body.

42. (Currently Amended) An artificial intervertebral disc suitable for placement between adjacent vertebra comprising:

a disc body having a superior articulating surface and an inferior surface adapted for fixation to bone, wherein the superior articulating surface has a single shape characterized as a hyperbolic paraboloid shape, wherein a convex reference curve is formed when the articulating surface is intersected with a midsagittal plane, wherein a concave reference curve is formed when the articulating surface is intersected with a second plane orthogonal to the midsagittal plane.